RFI # 317.03-093 11-04-2002

**Functional Category: TDOT** 

**Vendor Response Codes:** 

S = Standard Function ("Out-of-the-Box")

M = Modification Required

C = Custom Report/Inquiry

N = Cannot Meet Requirement

Reference	ce Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
		Materials Maintenance					
		The system must be capable of creating and adjusting work plans based					
		on budget, manpower, material, equipment, desired accomplishment and					
		level of service variables. The output will include printable work plans for					
		long term maintenance programs, maintenance projects, special projects,					
		and seasonal and routine maintenance activities.					
TD	1.00						
		The system shall provide the functionality to create, simulate, project and					
		balance maintenance activities under varying scenarios and ultimately to					
TD	2.00	develop yearly work plans based on the following criteria:					
TD	2.01	Inventory					
TD	2.02	Activities					
TD	2.03	Levels of Service					
TD	2.04	Performance Standards					
TD	2.05	Available Funding					
TD	2.06	Availability of Resources					
		These planning values represent the "base" for the calculations of the					
		work plans and the subsequent budgets, resource requirements and					ĺ
TD	3.00	performance evaluation processes.					
		The system must provide a mechanism to develop an annual work plan					
		(by unit/crew) to anticipate work that can be completed by available					
		manpower and equipment. The annual work plan should be capable of					
TD		documenting goals set by the department and become the basis for					
TD	4.00	evaluation of the maintenance program.					
		The system shall provide a mechanism to generate and calculate an annual budget (by unit/crew) and integrate it with the overall work plan for					
		estimated costs for labor, equipment and materials required for each					
TD	5.00	activity in the work plan.					
וט	5.00	The system must be able to calculate and predict the amount of time,					
		labor, equipment and costs required to perform maintenance activities at					
		various levels of service. (i.e. the ability to perform "what if" scenarios).					
TD	6.00	tailous is vois of service. (i.e. the ability to perform what if sechanos).					ĺ
-10	5.00	The system must provide the ability to prioritize and schedule work by					
TD	7.00	activity for long-range planning.					İ
		The system must provide a mechanism to create work schedules for					
TD	8.00	demand-responsive maintenance.					İ

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Reference	ce Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
ROIGIGIR	o manisor	The system should allow designated personnel the ability to develop daily,	Response	Comments	Modify	Modify	IIIIpact
		weekly, bi-weekly and monthly crew work schedules. Printed crew work					
TD	9.00	cards could be used to drive daily work activities.					
		The system must be flexible and allow designated personnel the ability to					
		make real-time assignments and adjustments for personnel, equipment,					
TD	10.00	activities and work crews.					
		The system should have the ability to assign labor resources based on the					
		individual function, role, or skill required to perform the particular activity.					
TD	11.00						
		The system should be capable of providing a preliminary work schedule,					
TD	12.00	based on statewide budget, goal and resource parameters.					
		The system should allow designated personnel the ability to define and					
TD	13.00	create a work calendar.					
		The system must have the ability to automatically compare completed					
TD	14.00	work accomplishments versus scheduled work.					
TD	15.00	The system should be able to track and reassign work not completed.					<u> </u>
		The system should be able to track, report, evaluate and schedule work					
TD	16.00	based on the type of activity being performed.					
		The system should allow designated personnel the ability to define work					
		periods and non-work periods (weekends, holidays) for a job, which					
		automatically determines the days available for the system to schedule					
TD	17.00	work.					
	40.00	The system must track, report, and maintain a history of field maintenance					
TD	18.00	inspections.					
TD	40.00	The system must be able to track, schedule and report equipment usage.					
TD	19.00	The protein will have person to the peat of rectarials personicted with					
TD	20.00	The system will have access to the cost of materials associated with maintenance activities.					
TD TD	20.00	The system will have the ability to create cost estimates for activities.					
וט	21.00						
Ī		The system shall provide a single source data entry point to avoid duplication of effort, and provide the information necessary for reports					
		(accomplishments, resource usage, time, roadway feature inventory					
TD	22.00	lupdates, etc.) to be generated from this single source of data.					
חו	22.00	The system must be capable of providing specified personnel the ability to					
Ī		record daily work documentation (labor, equipment, and material) into the					
TD	23.00	system using the following devices:					
טו	23.00	payatem daing the following devices.				1	<u> </u>

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Deferen	ce Number	Business Beautigneents	Vendor	C		Hours to	_
TD	23.01	Business Requirements  Desktop.	Response	Comments	Modify	Modify	Impact
TD	23.02	Laptop or hand-held computers.					
TD	23.03	Scanners.					
TD	23.04	Electronic clipboards.					
TD	23.05	Tablets with handwriting recognition.					
TD	23.06	Voice recognition systems.					
TD	24.00	The system must provide a user-friendly mechanism for entering crew day (daily work report) information electronically.					
	24.00	The system must provide a mechanism to maintain an average hourly					
		wage table by position classification. (i.e. county supervisor @ \$12.50 per					
TD	25.00	hour).					
		The system should provide a mechanism to use, accept, and maintain					
TD	26.00	electronic signatures in accordance with departmental standards.					
		The system shall be designed to track equipment usage by specification					
TD	27.00	data.					
		The system should automatically generate an equipment log showing					
TD	28.00	tracked information. (i.e. the equivalent of a form DT-0498).					
TD	29.00	The system shall provide the capability to track equipment loaned to other districts.					
		The system must provide a mechanism to maintain average equipment					
		cost of operating equipment. (i.e. dump truck =\$.50 per mile).					
TD	30.00						
		The system shall provide the capability to capture, track and manage					
		material costs (Direct Purchase, Statewide Contract or Local Purchase) for					
		each maintenance work activity by unit, dollar amount and description.					
TD	31.00					ļ	
		The system must allow authorized personnel the ability to control the					
TD	32.00	timing, availability and posting of data.					
		The system should allow an authorized program manager the ability to					
		create and maintain a funding database, capable of tracking funds by					
	00.00	source, status (whether allocated or not), constraints, amounts by year,					
TD	33.00	and other possible authorized user defined fields as needed.					
l <sub>TD</sub>	24.00	The system should provide the capability of tracking funding expenditures.					
TD TD	34.00 35.00	The system shall provide the capability of allocating funding resources.				1	
טו	აⴢ.00	The system shall provide the capability of allocating funding resources.			<u> </u>	L	ļ

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Reference	ce Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
Kolololik	oo maniibor	The system must provide the capability to estimate the quantity and unit	response	Somments	Modify	Modify	IIIpact
		cost for labor, equipment, and material. This is especially important when					
TD	36.00	determining Annual Work Programs and Budgets.					
		The system should provide the ability to determine the cost of performing					
TD	37.00	an activity by location.					l
		The system shall derive a Maintenance Rating Index from values assigned					
		for roadway classification, priority of activity and a factor for level of					
		importance for each facility type. The system shall allow the Maintenance					
TD	38.00	Rating Index to be manipulated and applied to activities.					<u> </u>
		The system should be capable of maintaining inventory of all maintenance					
TD	39.00	activities. These activities include but are not limited to:					
TD	39.01	Roadway					<u> </u>
TD	39.02	Roadside					<b></b>
TD	39.03	Drainage					<b></b>
TD	39.04	Signs					<b></b>
TD	39.05	Applicable bridge information					<b></b>
		The system shall provide for roadway feature inventory with location					
	40.00	(county route mileposts or GPS reference points), type, quantity, date					
TD	40.00	installed, and condition of the feature.					<b></b>
		The system shall provide the capability of adding and deleting feature					
TD	44.00	inventory throughout the year and also allow for updating of re-inventoried					
TD	41.00	items. The system shall provide the capability of rating the condition of pavement.					<del>                                     </del>
		The Pavement Management (PMS) will provide the data to TRIMS. The					
		system must interface with TRIMS to obtain this information.					1
TD	42.00	system must interface with Trains to obtain this information.					
וט	42.00	The system shall provide the capability to show the available equipment					
		and what job the equipment was used for. (i.e. integration of equipment					1
TD	43.00	scheduling and work scheduling).					
טו	+0.00	The system shall provide the capability to record the usage, cost and					
		location of equipment and provide for review of equipment activity and					l
TD	44.00	downtime.					l
	11.00	The system must provide the ability to set service levels. Service levels					
		relate to the condition of the maintainable elements and specify the levels					l
TD	45.00	to be maintained for each element.					

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D (			Vendor	•		Hours to	. •
Referenc	ce Number	Business Requirements The system must also provide a mechanism to track when a specific	Response	Comments	Modify	Modify	Impact
TD	46.00	element falls below the specified service level.					
TD	46.00	The system must provide a mechanism to assist appropriate personnel in					
TD	47.00	developing a maintenance program. (i.e. the level of service must be					
TD	47.00	capable of assisting in budget development).  The system shall provide the capability of adjusting service levels to those					
TD	40.00	that can be realized with appropriated funds.					i
TD	48.00	The system must provide the capability to set performance standards for					
TD	49.00	each work activity.					
וט	49.00	The system shall provide the capability to measure performance that					
TD	E0.00	reflects actual conditions encountered and reported in the field.					
וט	50.00	The system should provide the capability of performance standards to test					
		the comparative efficiencies, productivities, and cost–effectiveness of					
		various work procedures, equipment, material types, and crew sizes.					
TD	E1 00	various work procedures, equipment, material types, and crew sizes.					i
TD	51.00	The system should provide the capability to set pre-defined threshold					
		standards (condition standards). Threshold standards are standards that					
		can be allowed to exist before a specific highway feature is considered not					
		to meet the expectations of the agency, and when corrective action should					
TD	FO 00	be taken to improve the situation.					
TD	52.00						
		The system shall provide the capability to generate statistics and summary					i
TD	F2 00	reports pertaining to material usage, costs, and other information needed					
TD	53.00	for accounting and budgeting.  The system must provide a mechanism to document and report the					
							i
TD	54.00	causes of re-scheduling the work. These causes include but are not limited to:					i
TD	54.00	Bad Weather Conditions					
TD	54.01	Equipment Breakdown					
TD	54.02	Emergencies/Accident Repairs					
טו	34.03	The system should be capable of notifying specified personnel of missed					
		work. (i.e. if a project has been re-scheduled due to unforeseen					,
TD	55.00	circumstances).					,
	33.00	The system must allow for the tracking of floating crews (individuals					
		assigned to an activity outside of their county) and ensure that time,					,
		equipment, and material usage is tracked at the county of where the work					i
TD	56.00	is performed.					,
טו	30.00	ps performed.					

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maintenance expenditures maintenance funds expen well as the percent of labo TD 57.00 equipment hours spent or	Business Requirements the tracking of actual versus planned s. This will allow for tracking the percent of total ded on each set of maintenance functions, as r hours and the percent of materials and each group. e and track the equivalent documentation	Response	Comments	Modify	Modify	Impact
maintenance expenditures maintenance funds expen well as the percent of labo TD 57.00 equipment hours spent or	s. This will allow for tracking the percent of total ded on each set of maintenance functions, as r hours and the percent of materials and each group.					
maintenance funds expen well as the percent of labor TD 57.00 equipment hours spent or	ded on each set of maintenance functions, as r hours and the percent of materials and each group.					
well as the percent of laboration and the percent of laboration an	r hours and the percent of materials and each group.					
TD 57.00 equipment hours spent or	each group.					
						i
The acceptance accept and a company	e and track the equivalent documentation					
TD 58.00 including:	NI .					
TD 58.01 Assigned Crew Member				-		
TD 58.02 Hours Worked (regular	and overtime)					
TD 58.03 Activity						
TD 58.04 Activity #						
TD 58.05 Crew Size						
	#, hours, mileage, and description)					
TD 58.07 Material (description, u	nit, amount used)					
TD 58.08 Accomplishment						
TD 58.09 Date						
TD 58.10 District/County						
TD 58.11 Location and Special In						
	capability to differentiate contracted versus					1
	vide the ability to allow cost comparison.					
	he capability to establish and track the progress					1
TD 60.00 of maintenance work perfo						
The system shall provide	a mechanism to support contract analysis and					
TD 61.00 management.						1
The system must provide	the capability to modify contracted and privatized	t				
TD 62.00 work plans during the yea						
The system shall provide	he capability of placing threshold limits on each					
activity. When an activity	reaches or exceeds a specified amount or					1
percentage, a flag should	alert designated personnel that they are					1
TD 63.00 reaching/exceeding the ar	nount/percentage.					
The system shall track ov	er-runs on maintenance projects that are					
TD 64.00 performed by construction						i I
	/ integrated and by able to obtain project letting					
TD 65.00 information from the proje						i I

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aca Number	Rusiness Requirements	Vendor	Comments			Upgrade Impact
ice Nulliber		Response	Comments	Wiodily	Wiodily	IIIIpact
						1
66.00						
00.00						
						1
67.00						
07.00						
68.00						
00.00						
60.00	contained within the muster project the will include, but not be immed to.					
	Project Name					
	J					
03.00						
69 04	plans.					ì
	Applicable Special Provisions					
	Proposed Bid Letting Date					
	Applicable Special Provision Numbers					
69.08	DBE Goals (when determined by construction)					
69.09	State Estimate (when completed by the estimators)					
69.10	Dynamic Link to Electronic Plans for Each Project					
69.11	Linear Referencing System (LRS) Information					
70.00	The system shall use the master project file to construct proposals.					
	The system shall create proposals in a centralized document management system. The					
	proposal will consist of the following sections generated from information contained in the					,
	project file and standard text documents stored in the document management system:					
71.00						
	The system should provide a mechanism to allow authorized users access to electronic					
72.00	plans for each project that has been identified for letting					
	69.00 69.01 69.02 69.03 69.04 69.05 69.06 69.07 69.08 69.10 69.11 70.00	The system must provide a mechanism of interfacing with the TDOT Document Management System (under development) to facilitate the centralized management of documentation (forms, letters, etc.) associated with maintenance projects.  The system must provide the capability of interfacing with the TDOT GIS system (under development) to allow personnel to see data presented in a geographic manner and to provide personnel with the ability to access information through a geographic interface.  The system must provide the ability to create and print work calendars projecting work scheduled versus available resource.  Construction Bid Management  Once a project has been identified for letting, the Bid Letting System should facilitate the creation of a master project file for storage of pertinent project information. Information contained within the master project file will include, but not be limited to:  69.00  69.01  Project Name 69.02  Project Numbers (determined during planning, programming, and design)  69.03  Contract Number  Detailed Bid Item Information (numbers, descriptions, units of measure, estimated quantities, etc.) It is intended that the bid item information will be automatically transferred into the master project file by means of a dynamic link to the electronic plans.  69.04  69.05  Applicable Special Provisions  69.06  Proposed Bid Letting Date  69.07  Applicable Special Provision Numbers  69.08  DBE Goals (when determined by construction)  69.09  State Estimate (when completed by the estimators)  69.09  Onymanic Link to Electronic Plans for Each Project  69.11  Linear Referencing System (LRS) Information  70.00  The system shall create proposals in a centralized document management system. The proposal will consist of the following sections generated from information contained in the project file and standard text documents stored in the document management system:  71.00  The system should provide a mechanism to allow authorized users access to electronic	The system must provide a mechanism of interfacing with the TDOT Document Management System (under development) to facilitate the centralized management of documentation (forms, letters, etc.) associated with maintenance projects.  The system must provide the capability of interfacing with the TDOT GIS system (under development) to allow personnel to see data presented in a geographic manner and to provide personnel with the ability to access information through a geographic interface.  The system must provide the ability to create and print work calendars projecting work scheduled versus available resource.  Construction Bid Management  Once a project has been identified for letting, the Bid Letting System should facilitate the creation of a master project file for storage of pertinent project information. Information contained within the master project file will include, but not be limited to:  69.01 Project Name  69.02 Project Numbers (determined during planning, programming, and design)  69.03 Contract Number  Detailed Bid Item Information (numbers, descriptions, units of measure, estimated quantities, etc.) It is intended that the bid item information will be automatically transferred into the master project file by means of a dynamic link to the electronic plans.  69.04 Applicable Special Provisions  69.05 Applicable Special Provision Numbers  69.06 Proposed Bid Letting Date  69.07 Applicable Special Provision Numbers  69.08 DBE Goals (when determined by construction)  69.09 State Estimate (when completed by the estimators)  69.10 Dynamic Link to Electronic Plans for Each Project  69.11 Linear Referencing System (LRS) Information  70.00 The system shall use the master project file to construct proposals.  The system shall create proposals in a centralized document management system. The proposal will consist of the following sections generated from information contained in the project file and standard text documents stored in the document management system:  71.00  The system should provide a mechanism t	The system must provide a mechanism of interfacing with the TDOT Document Management System (under development) to facilitate the centralized management of documentation (forms, letters, etc.) associated with maintenance projects.  The system must provide the capability of interfacing with the TDOT GIS system (under development) to allow personnel to see data presented in a geographic manner and to provide personnel with the ability to access of 7.00 information through a geographic interface.  The system must provide the ability to create and print work calendars projecting work scheduled versus available resource.  Construction Bid Management  Once a project has been identified for letting, the Bid Letting System should facilitate the creation of a master project file for storage of pertinent project information. Information contained within the master project file will include, but not be limited to:  69.00  89.01 Project Name  69.02 Project Numbers (determined during planning, programming, and design)  69.03 Contract Number  Detailed Bid Item Information (numbers, descriptions, units of measure, estimated quantities, etc.) It is intended that the bid item information will be automatically transferred into the master project file by means of a dynamic link to the electronic plans.  69.04 Applicable Special Provisions  69.05 Applicable Special Provision Numbers  69.06 Proposed Bid Letting Date  99.07 Applicable Special Provision Numbers  69.08 DBE Goals (when determined by construction)  69.09 State Estimate (when completed by the estimators)  69.10 Dynamic Link to Electronic Plans for Each Project  69.11 Linear Referencing System (LRS) Information  70.00 The system shall create proposals in a centralized document management system. The proposal will consist of the following sections generated from information contained in the project file and standard text documents stored in the document management system.	The system must provide a mechanism of interfacing with the TDOT Document Management System (under development) to facilitate the centralized management of documentation (forms, letters, et.c.) associated with maintenance projects.  The system must provide the capability of interfacing with the TDOT GIS system (under development) to allow personnel to see data presented in a geographic manner and to provide personnel with the ability to access information through a geographic interface.  The system must provide the capability to create and print work calendars projecting work scheduled versus available resource.  Construction Bid Management  Once a project has been identified for letting, the Bid Letting System should facilitate the creation of a master project life for storage of pertinent project information. Information contained within the master project file for storage of pertinent project information.  69.00  Project Name  99.01  Project Names (determined during planning, programming, and design)  Contract Number  Detailed Bid Item Information (numbers, descriptions, units of measure, estimated  Detailed Bid Item Information (numbers, descriptions, units of measure, estimated  Detailed Bid Item Information (numbers of a dynamic link to the electronic plans.  99.04  Project Name  Detailed Bid Item Information (numbers of a dynamic link to the electronic plans.  99.05  Bid DaBE Goals (when determined by construction)  99.06  90.07  Dynamic Link to the completed by the estimators)  90.08  DBE Goals (when determined by construction)  90.09  The system shall create proposals in a centralized document management system.  The proposal will consist of the following sections generated from information contained in the project file and standard text documents stored in the document management system.  The proposal will consist of the following sections generated from information contained in the project file and standard text documents stored in the document management system.	The system must provide a mechanism of interfacing with the TDOT Document Management System (under development) to facilitate the centralized management of documentation (forms, letters, etc.) associated with maintenance projects.  The system must provide the capability of interfacing with the TDOT GIS system (under development) to allow personnel to see data presented in a geographic manner and to provide personnel with the ability to access information through a geographic interface.  The system must provide the ability to create and print work calendars projecting work scheduled versus available resource.  Construction Bid Management Once a project has been identified for letting, the Bid Letting System should facilitate the creation of a master project file for storage of pertinent project information. Information contained within the master project file will include, but not be limited to:  69.00  19.

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		The system must provide notification capabilities to alert proposal coordinators of changes					
TD	73.00	to the Master Project File or Electronic Plans that will affect the proposal					
		The system should provide a windows driven interface to enter the state estimate for bid					
TD	74.00	items contained in the Master Project File.					1
		The system should use the information contained within the master project file to provide					
		state estimators with information regarding bid items, supplemental specifications, special					1
TD	75.00	provisions, and plan details					
TD	76.00	The system will store the State Estimate in the Master Project File.					
		The system must provide notification capabilities to alert appropriate personnel to changes					
TD	77.00	in the Master Project File that may affect the State Estimate.					
		Authorized personnel should be given access to the State Estimate, to establish appropriate					1
TD	78.00	DBE goals for individual projects.					
		Construction Management					
		The system shall provide a mechanism to automatically generate and distribute					
		Award Notices and Work Order information to appropriate parties and personnel.					1
TD	79.00						
		The system shall determine appropriate Award Notice and Work Order					1
TD	80.00	distribution based on contract information obtained from the Bid Letting System.					
		Award Notices and Work Order information generated by the system must					
		contain the following information to be obtained from the Bid Letting System:					1
TD	81.00						
TD	81.01	Contractor's name					
TD	81.02	Execution date					
TD	81.03	Effective date					
TD	81.04	Completion Date (if applicable)					
TD	81.05	Working Days (if applicable)					
TD	81.06	Adjustment Items					
TD	81.07	Surety & Agent					
TD	81.08	Supplemental Description's of Bid Items					
		The system shall store the Award Notice and Work Order for each project in a					i
	00.00	central document management system for access by all necessary parties					i
TD	82.00	throughout the department.					<b>—</b>
		The system shall facilitate the automatic creation of electronic field books to document construction quantities based on bid item numbers contained in the					
TD	83.00	bid letting system for each specific contract.					
טו	03.00	Did letting system for each specific contract.					

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Keleleli	ce Number	The system shall facilitate the automatic creation of the appropriate diaries to	Response	Comments	Mouny	Modify	IIIIpact
		document project activities. The diaries to be created include but are not limited					i
TD	84.00	to (daily work activities, traffic control, erosion control, etc.)					ĺ
	000	The system shall utilize a dynamic link from the electronic plans to the electronic					
		field book system to automatically include or delete bid items resulting from					
TD	85.00	revisions created during construction.					
		The system shall facilitate the automatic creation of item documentation sketch					
		sheets for bid items requiring sketches for additional documentation. Each					1
		sketch sheet will be preprinted with the appropriate identifiers for easy scanning					ĺ
		into the document management system. The system should contain the option					ĺ
		of printing sketch sheets for applicable bid items at the start of construction or on					ĺ
TD	86.00	demand as necessary.					
		The system should be capable of projecting the materials and testing effort that					
		will be necessary to complete the project based on the estimated quantities used					ĺ
TD	87.00	for bid letting.					
		The system shall facilitate the automated invitation of appropriate individuals to					
		the Pre-Construction Conference. Attendees will be identified by information					ĺ
TD	88.00	contained in the plans and contract.					
		The system should facilitate informing invited parties of the documentation they					ĺ
TD	89.00	are expected to provide at the Pre-Construction Conference.					
		The system shall provide a mechanism to upload and display electronic copies of					ĺ
TD	90.00	a contractor documents.					
		Project Development					
		The system shall maintain cost estimates for each project from conception					ĺ
		through construction in a centralized area for access by authorized personnel.					ĺ
TD	91.00						
		The system must provide user level security access to maintain the					
TD	92.00	confidentiality of each cost estimate.					
		The system should provide a mechanism to produce and track project estimates					
TD	93.00	during the planning phase of a project.					
		The system should provide current unit cost information for transportation system					
		improvements. The unit cost information should be derived from using a					İ
1	04.00	standard set of items and average quantities compared to historical bid information and current market and cost based data.					İ
TD	94.00						<del>                                     </del>
		Unit cost information should be dynamically linked to historical bid information					İ
		and current market and cost based information databases to automatically					İ
TD	05.00	update estimates in response to current market fluctuations and bid patterns.					İ
TD	95.00						<u> </u>

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Referenc	ce Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
		The system shall provide a mechanism to automatically generate and distribute	тооролоо	Commente	mouny	mouny	Impact
TD	96.00	starting notifications to appropriate parties.					
		The system shall provide interface capability to transfer electronic geometric					
		design data contained in CADD files to data collectors to allow TDOT and					
		contractor crews to complete construction survey and staking in a timely and cost					
TD	97.00	efficient manner.					
		The system must be capable of providing project inspectors with ability to					
		document project quantities and project activities in electronic field books using:					
TD	98.00						
TD	98.01	Laptop computers					
TD	98.02	Hand-held computers					
		The system must be capable of calculating quantities of certain bid items based					
		on the entry of specific measurable quantities that relate directly to the bid item					
		(e.g. the system must be able to calculate cubic yards of excavation by entering					
		length, width, and depth, or interfacing with a data collector.). The measured					
		parameters for each bid item will be identified by construction personnel.					
TD	99.00						
		The system shall provide a mechanism to download cross section information					
		contained in surveying data collectors, transfer the information into a designated					
	400.00	survey and design package, and transfer the appropriate "cross-section derived"					
TD	100.00	quantity to the electronic field book.					
		The system shall provide a mechanism to enter and manage monthly labor					
TD	101.00	interviews into a centralized location for access by authorized departmental personnel.					
TD	101.00	The system must provide data entry safeguards to prevent data loss due to					
		multiple concurrent logins into a project file. The system could use a check-					
		in/check-out system for project field books and diaries. The "check-in/check-out"					
		system will protect the project documentation from data loss due to multiple					
TD	102.00	concurrent entry logins.					
	102.00	The system must provide a mechanism to store and manage data from tests					
		completed by the materials and testing division for each construction project.					
		The system should be capable of tracking sample test results for each bid item.					
TD	103.00	,					
		The system should be capable of notifying specified personnel of Materials and					
TD	104.00	Testing sample failures on each individual project.					
		The system should provide the capability of flagging quantities intended for					
TD	105.00	payment that do not have the appropriate Materials and Test Certifications.					

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Referenc	e Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
Kelefelle	e Number	The system should facilitate the automated tracking of contractor payroll records	Response	Comments	Woully	Wiodily	IIIIpact
		possibly requiring the contractors to use department specified payroll tracking					
		software and require a regularly scheduled download of information. Information					
TD	106.00	to be tracked includes:					
TD	107.00	Worker Name					
TD	108.00	Projects on which each individual worked					
TD	109.00	Corresponding job titles for each project					
TD	110.00	Corresponding rates paid for each title on each project					
		The system shall provide a flagging mechanism to identify contractors that do not					
		appear to be in compliance with departmental guidelines according to the payroll					
TD	111.00	data tracked by the system.					
		The system shall provide a flagging mechanism to identify and track non-verified					
l		quantities. The flagging system should also include a tracking system to					
TD	112.00	document the resolution of quantity discrepancies.					
		The system must provide the ability to track and display construction zone limits,					
		including construction zones for maintenance crews. The system should facilitate the inclusion of termini for construction zones to be entered into the system by					
		means of truck mounted GPS equipment. Along with geographic information for					
		construction zones, the system should be capable of tracking, at a minimum,					
		dates, times, activities, and significant events in each construction zone.					
TD	113.00	adios, ilinos, adiandos, and organisant orga					
	110.00	The system shall provide the ability to track daily maintenance activities and the					
		location of daily maintenance work zones through the use of electronic project					
TD	114.00	diaries.					
		The system must provide a mechanism to track utility relocation progress					
		including baseline utility location information (geographic positions and dates of					
		documentation) and utility relocation activities (geographic position of relocated					
TD	115.00	utilities, dates and summaries of activities).					
		The system should have the ability to manage materials and testing samples with					
ľ		time critical constraints (e.g. making sure concrete cylinders get to the curing					
l		room in the appropriate time frame, making sure they are tested on time, and					
TD	116.00	knowing where they are at any given time).					
ľ		The system should capture materials and testing data from all locations for each					
<sub>TD</sub>	447.00	project into a centralized system for access by all necessary personnel.					
TD	117.00	The protein should musicial well time on more well time goods to the constant					
TD	110 00	The system should provide real time or near real time access to the materials and testing reporting data.					
TD	110.00	and testing reporting data.					

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Reference	e Number	Business Requirements	Vendor Response	Comments	Cost to Modify	Hours to Modify	Upgrade Impact
		The system should provide timely and dependable delivery of materials and			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
TD	119.00	testing notifications and requirements.					
		The system should provide a mechanism to facilitate the timely and efficient					
		transmission of friction pile load test and test pile data and recommendations					1
TD	120.00	between the field and the structures division.					1
		The system should use methodology similar to work order tracking systems to					
		identify, document, and track resolutions of problems, changes, and revisions					1
TD	121.00	encountered during construction.					
		The system should have automated notification capabilities to coordinate testing					
		that is dependent upon meeting specific milestones in the life of a project (bridge					1
TD	122.00	inspections, rideability, etc.).					
		The system should have the capability to provide notification of commencement					1
		and termination of key events including lane closures, movement of oversized					1
TD	123.00	materials, etc. to appropriate personnel.					
		The system should have the ability to regularly update and maintain a visual					
		record of construction zones. (e.g. Digital Photo-Logs, Digital Aerial					
TD	124.00	Photographs, etc.).					
		The system should have the capability of notifying appropriate parties when a					
TD	125.00	construction project is finished and open for traffic					
	400.00	The system will have the ability to track and manage receipt of performance					
TD	126.00	surety bonds for applicable items.					$\vdash$
	407.00	The system will provide access to job field books to establish a final records					
TD	127.00	book.					
TD	400.00	The system will provide access to job field books to verify quantity calculations.					1
TD	128.00	The system will provide automated correlation of test and field book data to verify					
TD	120.00	quantity estimates.					
טו	129.00	The system will provide functionality to easily complete calculations on					
TD	130.00	adjustment items.					
10	130.00	The system must provide a mechanism to provide explanations for item over and					
TD	131 00	under runs on each project.					
	101.00	The system must provide a mechanism to coordinate the checking of final					
TD	132.00	contract records between final records and Materials and Test.					i
<u> </u>	.02.00	The system must provide a mechanism to correct errors, if applicable after being					
TD	133.00	checked by Final Records and Materials and Test.					
		The system must provide a mechanism to publish advertisements for claims					
TD	134.00	against contractors after the project has been completed.					i
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		The system must provide a mechanism to transmit, document return receipt,					
		upload, and manage the labor and materials affidavit for final payment to be					
TD	135.00	released for a contractor.					
		The system should facilitate the creation of a centralized location for storage of					
		pertinent bridge design & inspection, and maintenance information. Information					
TD	136.00	contained will include, but not be limited to:					
TD	136.01	As built information					
TD	136.02	final deck elevations					
TD	136.03	final pile cap elevations					
TD	136.04	final foundation elevations					
		The system must provide notification capabilities to alert appropriate personnel					
		to when a bridge is ready for final inspection prior to being opened to traffic.					
TD	137.00						
		The system shall provide interface capabilities to update design plans if as-builts					
TD	138.00	vary from the plan.					
		The system must provide a mechanism to document claims filed against					
TD	139.00	contractors for each individual project.					
l		The system must provide a mechanism to document lawsuits filed against					
TD	140.00	contractors for each individual project.					
		Program Management					
		The system should manage multiple organization-wide projects at the program					
l		level as well as individual or groups of projects at the project management level.					
TD	141.00	The state of the s					
		The system should be able to maintain inventory of all projects at the program					
		level. Selected projects are "programmed" (i.e. approved or authorized for development) and are developed as active projects, which are managed at the					
TD	440.00	project level.					
TD	142.00	The system must have the capability to differentiate programmed vs. candidate					
TD	143.00	projects.					
ID	145.00	The system must allow the authorized user to move from candidate projects to					
TD	144 00	programmed projects.					
	177.00	The system should be capable of building and maintaining multiple					
TD	145.00	long/medium/short range programs, each consisting of +/- 1000 projects.					
	. 10.00	The system should have the capability to add candidate projects to a program					
TD	146.00	database. The data should include as a minimum:					
TD	146.01	unique identifier,					
TD	146.02	route number/name, route termini,					
TD	146.03	type of improvement,					
		<u> </u>					

## State of Tennessee ERP Automation Assessment Study

# **FUNCTIONAL REQUIREMENTS MATRIX**

RFI # 317.03-093 11-04-2002

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Reference Number		Business Requirements	Vendor Business Requirements Response Comments		Cost to Modify	Hours to	Upgrade Impact
	TD 146.04	estimated cost,					